



Taroborah Coal Project

Environmental Impact Statement

Section 4.11 – Environmental Values and Management of Impacts – Health and Safety

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4.11 HEALTH AND SAFETY

4.11.1 Description of Values

Historically, expansion of the Central Highlands region from the 1950s to 1980s was driven by the introduction of beef cattle grazing and the development of the Fairbairn Dam, irrigation for farming and coal mining (CHRC 2012).

The Fairbairn State Forest is located immediately adjacent to the Project site and is used for forestry purposes. The Project site itself has been largely cleared of native vegetation except along ephemeral drainage lines where remnant riparian vegetation still remains. The predominant land use is cattle grazing, and groundwater is utilised for stock and limited domestic water supply.

Although no other mines operate within 10 km of the Project, historically, Retreat Creek (located along the northern boundary of the Project site) has been mined for gravel and gemstones to the west. Currently, the closest mining operations to the Project are the Minerva Coal Mine located 45 km south of the Project and Ensham Coal Mine located over 50 km to the north-east.

As described by *The Central Highlands 2022 Community Plan* (CHRC 2012), the people of the Central Highlands describe themselves as a resourceful, vibrant community who value a safe, rural, relaxed lifestyle, a diverse and prosperous economy flourishing within a healthy natural environment.

The CHRC's community values for public health and safety are safeguarded by Model Local Law No. 3 (Community and Environmental Management) 2011 (CHRC 2013). The Model Local Law No. 3, adopted in 2011, protects the Central Highland community's environment, amenity and public health and safety values from the following potential impacts:

- Inadequate protection against animal and plant pests;
- Vegetation overgrowth;
- Visual pollution;
- Fire and fire hazards not regulated by State law;
- Community safety hazards; and
- Noise that exceeds noise standards.

4.11.1.1 Sensitive Receptors

Sensitive receptors can be defined as human residences and places of work or recreation, such as kindergartens, schools, hospitals, aged care facilities, office buildings, factories and workshops. Sensitive receptors are those which are likely to experience adverse effects due to the activities associated with the Project. The majority of sensitive receptors relevant to the Project were found to be homesteads as illustrated in Table 4.143.

No kindergartens, schools, hospitals, aged care facilities, office buildings, factories or workshops are known to exist locally.

Table 4.143 Proximity and Direction of Sensitive Receptors to the Project

Receptor	Homestead	Distance and Direction from MDL Centre		Coordinates	
		Distance (km)	Direction	Easting	Northing
1	St Helens	Within MDL (South)		594385	7393080
2	Iona Downs	Within MDL (Central)		596713	7396823
3	Walther	Within MDL (North)		599684	7397217
4	Donnelly	Within MDL (Central)		596452	7396267
5	Jabiru	5	North	597530	7403116
6	Airlie	11	South	596837	7387833
7	Glendarriwell	15	South-West	584405	7390097
8	Dunloe	8	West	588975	7396455
9	Selma	9	East	605256	7398618
10	Fairways	8	West	589708	7395100
11	Kingower	13	North-East	606347	7407271
12	Sypher	6	East	602748	7400276
13	Fork Lagoons	12	North	595304	7410467
14	Wilga Downs	9	South-East	599200	7390042

As shown in Figure 4.159, four homesteads are located within the MDL. Homesteads identified as Donnelly and Iona Downs are considered highly sensitive due to their proximity to the opencut pit and underground mine domain. All homesteads within the MDL have been consulted and share open lines of communication with Shenhua. The remaining sensitive receptors range from 6 km to 15 km from the centre of the Project and have been specifically considered during air quality, noise and vibration impact assessments (refer to Sections 4.6 and 4.7, respectively).

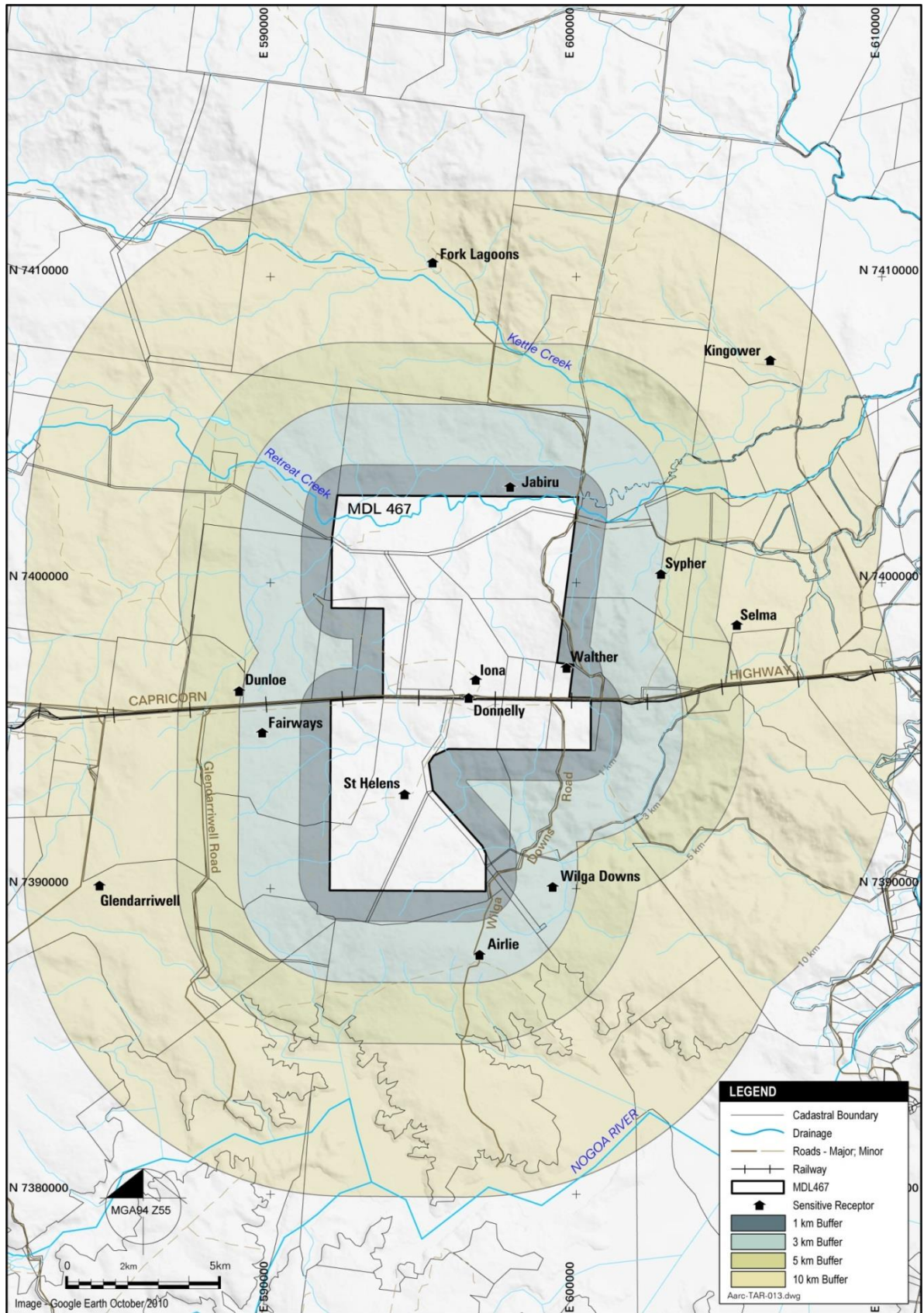


Figure 4.159 Location of Sensitive Receptors

4.11.2 Potential Impacts And Mitigation Measures

The Project has the potential to impact on the health and safety of the community through emissions sources and contamination that may be carried downstream via surface water runoff. The Project's propensity to create unfavourable living conditions for the local community is regulated through environmental management and stewardship, at the forefront of company concern.

The following impacts associated with the Project have been identified as having the potential to affect the health and safety of the local community:

- Air quality impacts from the Project operation arising from emissions such as dust;
- Noise and vibration impacts resulting from the Project operation;
- Water quality impacts from contaminated surface water runoff from the Project;
- Health risks associated with disease vectors;
- Health risks from contamination to land;
- Transport safety including traffic increases and driver fatigue; and
- Critical failures and natural disasters.

The following sections provide an overview of the potential impacts, both long term and short term, associated with the Project that have the capacity to affect the health and safety of the local community. Mitigation measures will also be discussed and have been developed during design and planning to protect community values, health and safety.

4.11.2.1 Air Quality

Air pollution is ranked as one of the major environmental and public health concerns throughout Australia (Department of Environment 2013). Poor air quality has the ability to impact on the quality of life of those affected, especially children and the elderly.

An air quality impact assessment was conducted by Katestone Environmental Pty Ltd (Katestone) during November 2013 which focussed on critical pollutants relevant to the Project such as Total Suspended Particles (TSP), PM₁₀ and PM_{2.5}. Dust deposition rates were also assessed.

The incremental air quality impacts due to mining operations have been assessed by a comparison of the predicted ground-level concentrations of dust and dust deposition rates at identified sensitive receptors, with recognised air quality objectives and guidelines (refer to Appendix 15). An assessment of existing sources of air pollutants found several mines within a 60 km radius that may contribute emissions to background levels in the region.

In addition to dust, an odour assessment was conducted to assess potential odour impacts that may be experienced by the workforce or local community from the ventilation shaft associated with the underground mining operation.

Dust

The extraction of coal from the opencut mine is expected to have the largest impact on human health and amenity during Year 5 of operation, coinciding with peak production.

Key activities that contribute to dust generation include:

- Vehicle traffic on haul roads;
- Overburden removal truck and shovel;
- Drilling and blasting;
- Extraction activities within the pit itself;
- Wind erosion from stockpiles;
- Conveyors;
- Exposed surfaces;
- Train loading; and
- Product preparation and washing.

Predicted ground-level concentrations and deposition rates at sensitive receptor locations are presented in Table 4.144. The predictions are based on Year 5 of operations, considered to be the worst-case scenario for likely air emissions. Red highlight indicates an exceedance of air quality objectives, background concentrations have been provided for reference.

Table 4.144 Predicted Ground-level Concentrations and Deposition Rates at Sensitive Receptors during Year 5 in Isolation

Receptor	Concentration (µg/m³)				Deposition Rate (mg/m²/day)	
	TSP	PM ₁₀	PM _{2.5}			
	Annual Average	6 th Highest 24 hour average	Max. 24 hour average	Annual Average	Max. Monthly Average	Annual Average
St Helens*	39.0	167.9	31.5	3.8	60.9	37.9
Jabiru	2.1	25.2	6.7	0.3	3.0	1.4
Iona Downs*	71.1	377.0	86.9	5.4	199.6	82.6
Walther*	7.5	94.0	19.5	0.9	18.7	5.8
Airlie	3.7	42.3	12.1	0.6	4.8	2.0
Glendarriwell	2.5	16.9	6.7	0.5	3.9	1.5
Dunloe	11.8	78.1	21.6	1.9	15.6	7.6
Selma	0.8	11.1	9.9	0.1	1.8	0.5
Kingower	0.6	8.6	2.9	0.1	0.8	0.3
Fork Lagoons	0.6	7.5	3.4	0.1	0.6	0.3
Donnelly*	249.0	750.5	117.1	14.4	776.0	359.1
Wilga Downs	1.7	17.9	6.9	0.2	6.7	1.6
Fairways	16.2	87.8	27.1	2.3	22.2	11.8
Sypher	1.3	24.9	5.3	0.2	2.3	0.8
Background	28.0	21.0	5.4	2.8	40.7	40.7
Air Objective	90	50	25	8	120	130

Results indicate that the predicted annual average ground-level concentrations of TSP from the Project are compliant with the air quality objectives at all receptors outside the Project site boundary. Only two receptors, Fairways and Dunloe outside of the MDL, are anticipated to experience PM₁₀ and PM_{2.5} levels outside of air quality guidelines. Both sensitive receptors affected by air quality impacts outside of the MDL are located 8 km west, from the centre of the Project.

Potential impacts from the mining operation on the surrounding air shed and sensitive receptors shall be mitigated through a proactive management plan addressing strategies to mitigate adverse impacts on the health and amenity of the surrounding community.

Consistent with leading industry practice, the following management strategies shall be employed on the Project site as required:

- Watering and grading haul roads and use of road surface treatments;
- Water sprays, covers and chutes used in all coal handling and preparation operations as applicable (crushing, screening, conveying, stockpiling and train loading);
- Progressive revegetation of disturbed areas as mining operations develop;
- Provision of windbreaks (such as tree planting) around stockpiles;
- Continuous real time monitoring of dust concentrations at sensitive receptors;
- Continuous real time monitoring of meteorological conditions;
- Management of load profiles and loading techniques of trains to avoid spillage;
- Adaptive management strategies such as reduction in extraction rates of operations when meteorological monitoring suggests adverse wind conditions or dust monitoring at sensitive receptors indicates levels are near to exceeding air quality criteria;
- Consultation with potentially impacted landowners and negotiation of relevant mitigation measures. The implementation of simple mitigation measures at residences if appropriate, for example installing first flush systems on rainwater tanks; and
- The surface of coal in wagons will be profiled to a flat “garden bed” shape and a surface treatment applied to minimise coal dust emissions during transit to the port. This is a requirement of all trains using the port at Gladstone.

Monitoring

A continuous real time monitoring system will be established for the Project to monitor PM₁₀ concentrations outside of the Project boundary. The monitoring will occur in proximity to the most affected sensitive receptors and devices will be located upwind and downwind of the Project site. The system will be linked to a trigger action response plan (TARP) that will be activated once the rolling 24-hour average concentrations exceed 80% (40 µg/m³) of the Air EPP objective of 50 µg/m³. The TARP will include amendment of site activities when monitoring results show elevated levels of PM₁₀.

Odour

Underground coal mines are ventilated to control dust and to ensure that coal seam gases, when



present, do not build up and become hazardous. Sampling and analysis has been undertaken to quantify odour emission rates and odour concentrations.

Modelling predicted the maximum (99.5th percentile, 1-hour average) ground-level concentrations of odour, associated with underground operations, to be 1.7 odour units (ou), below EHP's odour guideline of 2.5 ou (99.5th percentile, 1-hour average) (refer to Appendix 15 for further details).

4.11.2.2 Noise and Vibration

Environmental, or community, noise is one of the most common pollutants and is now recognised as a health concern because of its associated impacts on the general public's quality of life. There is sufficient evidence to link environmental noise to sleep disturbance, performance and learning, cardiovascular disease, mental health and stress (enHealth Council 2004). Public health action in Australia has been subsequently orchestrated to reduce these health effects (enHealth Council 2004).

Noise associated with the Project has the potential to disturb sensitive receptors because of their close proximity to the Project site. Potential noise and vibration sources created as a function of the Project include:

- Light and heavy vehicles accessing the Project;
- Possible blast activities for opencut mining;
- Underground ventilation fan and motors;
- Opencut and underground mining activities (extraction, hauling, drilling, etc.);
- Crushing of coal;
- Conveying and stacking coal; and
- Loading of coal trains.

In order to quantify potential noise impacts from the Project, noise modelling was carried out by ASK Consulting Engineers Pty Ltd (ASK) (Appendix 17) using the SoundPLAN computer program. The SoundPLAN model was configured to run with a meteorological file with neutral and adverse (temperature inversion) conditions and included terrain data for the Project site plus the opencut pit and out-of-pit spoil dumps.

The noise and vibration impacts from the Project were assessed against *the acoustic objectives within the Environmental Protection (Noise) Policy 2008*, the *EHP Guidelines Assessment of Low Frequency Noise* and *Noise and Vibration from Blasting*, in addition to the WHO guidelines *Planning for Noise Control*.

Predicted noise levels were modelled based on Year 3 of operations, considered to be the worst case scenario for noise impacts, using neutral and adverse meteorological conditions. The predicted noise levels at the nearby sensitive receptors for opencut mining for Year 3 are presented in Table 4.145. Results which exceed the nominated night time criteria are highlighted red.

Table 4.145 Predicted Noise levels at Nearby Sensitive Receptors during Year 3 Modelled Scenario

Location	Predicted Noise Level $L_{eq,1hr}$ dBA		
	Day and Evening (Limit 40 dBA)	Night (Limit 35 dBA)	
	Neutral Conditions	Neutral Conditions	Adverse Conditions
Airlie	22	22	28
Donnelly	47	47	53
Dunloe	24	23	30
Fairways	27	26	33
Fork Lagoons	15	15	18
Glendarriwell	16	15	19
Iona Downs	44	44	51
Jabiru	22	22	28
Kingower	14	14	17
Selma	20	20	24
St Helens	37	37	44
Sypher	21	21	27
Walther	31	31	39
Wilga downs	25	25	31

From the analysis, modelling of the worst case scenario (Year 3) predict that noise levels at four sensitive receptors - Donnelly, St Helens, Iona Downs and Walther properties - will exceed the proposed noise limits at varying times and weather conditions during the early stages of mine life.

Ground vibration levels were determined to be within 5 mm/s peak particle velocity (PPV) criterion at distances greater than 600m from the blast (assuming the higher site constant (K) of 1600), potentially affecting one sensitive receiver (Donnelly) that is located 200 m from the pit limit.

The 120 dB airblast criteria (not to be exceeded at any time) was determined to be achieved 700 m from the blast, whereas the 115 dB airblast criteria (not to be exceeded for four out of five blasts) would be achieved at a distance of approximately 1 km from the blast. One sensitive receptor (Donnelly) is located within the airblast impact zone and Iona Downs will also be potentially affected from airblast in Years 4 to 7 as it is located 1 km north of the pit limit.

Noise, vibration and airblast mitigation measures will be considered in order to reduce potential impacts on sensitive receptors. These strategies include alternative arrangements with property

holders such as property purchases, attenuation of equipment (fixed and mobile plant), quieter mining methods such as re-routing haul roads, designing blast parameters to ensure that airblast and vibration criteria are met, and implementation of a noise monitoring program to ensure mining operations are undertaken in accordance with the prescribed noise criteria.

4.11.2.3 Water Quality

Water quality is fundamental to the wellbeing of the workforce and community. Not only does water quality affect ecological processes that support native fish populations, vegetation and native wildlife, but many human uses depend on water quality that is suitable for irrigation, stock watering, drinking, fishing and recreation and able to meet cultural needs.

Several ephemeral drainage features intersect the Project site including Retreat Creek along the northern boundary of the site and Taroborah Creek running east to west, south of the opencut pit area. Taroborah Creek joins St Helens Creek several kilometres east of the Project before flowing into the Nogoa River.

Lake Maraboon, Queensland's second largest lake is located approximately 5 km south of the Project. The lake currently provides water to about 300 irrigators within the Emerald Region. Lake Maraboon discharges to the Nogoa River with flow maintained to supply a consistent water supply to downstream irrigators. The Project is located outside of the catchment area of Lake Maraboon.

Release of Contaminants to Surface Waters

Two regulated dams will be located on the Project site to capture and recycle contaminated water associated with the Project. During extreme meteorological events, potential flooding and dam break scenarios can create surface water contamination, affecting downstream aquatic environments through heavy metal contamination. Subsequently, this can also affect downstream irrigators who use this water to assist with cropping and cattle grazing.

In accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Dams* (EHP 2013), all regulated dams will be designed by, and constructed under the supervision of, a suitably qualified and experienced person.

According to EHP guideline *Structures which are Dams or Levees Constructed as Part of Environmentally Relevant Activities* (2013), regulated dams must also be able to withstand seasonal rainfall events without releasing contaminants from the dam in an unauthorised manner. A minimum available storage, called a Design Storage Allowance (DSA), is required to be estimated for regulated dams on the Project site in order to accommodate seasonal rainfall to a specified annual probability. On-site water management will allow for and provide the DSA volume in each regulated dam, going into each new wet season (1st November each year) (EHP 2013).

Each dam will be allocated a Mandatory Reporting Level (MRL), the level at which it is mandatory to communicate to EHP that there is a possibility of a spillway discharge from a regulated dam.

Water quality conditions will be provided in the Project's Environmental Authority (EA) and water quality of regulated dams shall be monitored to ensure compliance with water quality objectives.

Consultation with affected persons will be undertaken and emergency action plans, including response procedures, will be put in place in accordance with EHP guideline *Structures which are Dams or Levees Constructed as Part of Environmentally Relevant Activities* (2013).



Notification of Emergencies

In the event of an unplanned release from a regulated dam, strategies will be implemented to notify EHP within 24 hours of the event.

Throughout operations, open lines of communication will be kept, facilitating quick and efficient notification during an emergency. Contact will be by fax, phone or email in the event of an emergency and as a minimum the following information will be provided:

- i. Location of the release;
- ii. The date and time of the release;
- iii. The estimated quantity and type of any substance involved in the incident; and
- iv. The potential impacts to environmental values caused by the release.

Groundwater Decline and Contamination

Within the Project area, low intensity cattle grazing is the predominant land use. Farmers currently utilise groundwater for stock and domestic water supply, although domestic use is limited.

In a study of the groundwater resources associated with the Project site conducted by Australasian Groundwater and Environmental Consultants Pty Ltd (AGE), groundwater was found to be suitable for stock water supply. However, in a comparison against the *Australian Drinking Water Guidelines* (National Health and Medical Research Council (NRMMC) 2011) groundwater was found, in general, to be unsuitable for human consumption as it exceeded either aesthetic or health guidelines, although in some cases this exceedance is marginal.

One unregistered bore identified within the Project boundary is reported to supply drinking water to three properties. Results indicate this bore is marginally suitable for human consumption.

Modelling results indicate that 10 active private landholder bores may potentially be affected by groundwater level declines greater than 2m as a result of the Project. This breakdown includes:

- Three bores used for stock water supply are predicted to experience groundwater declines of less than 5m;
- Two bores used for stock water supply are predicted to experience groundwater declines of between 5m to 10m; and
- Five bores used for stock and domestic water supply are predicted to experience groundwater declines of over 10m.

Groundwater supplies are not anticipated to be affected by hydrocarbon or metal contamination from the Project as appropriate bunding of chemicals and diesel storage tanks shall be undertaken in accordance with Australian Standard 3780-2008 *The Storage and Handling of Corrosive Substances*.

A groundwater monitoring programme will be implemented to assess the potential impacts from the Project on groundwater quality and the hydrogeological regime.

The groundwater bores that are included in the groundwater monitoring programme are described in Appendix 14. Groundwater sampling of these bores aims to establish the following criteria to



effectively protect and mitigate impacts:

- Baseline groundwater quality;
- Determination of trigger levels; and
- Potential groundwater quality impacts during mining and after cessation.

The groundwater monitoring programme will provide an on-going assessment of the potential impacts from the mine and a proactive indicator of any unexpected impacts on the groundwater regime. Long-term groundwater level data can also be used to define the accuracy of model predictions.

4.11.2.4 Disease Vector Provision

The promotion of good practice in water management and other environmental management approaches, including feral animal control systems, underpin integrated vector management on the Project site.

The main risks related to the propagation of disease vectors during operation are associated with regulated dams, transition of disease through potable drinking water supplies and contamination via the irrigation of sewage effluent.

Furthermore, following mine cessation, residual subsidence from underground mining if not properly mitigated has the potential to alter surface hydrology and flood behaviour of the Project site, potentially creating sporadic pools of water. This water can have a number of detrimental effects including increased soil erosion rates and may display poor water quality parameters encouraging the propagation of bacteria and other pathogens.

Mitigation measures designed to reduce the risk of midge / mosquito propagation and man-vector-pathogen contact have been incorporated into mine planning. For example, the standing time of water captured in regulated dams is minimised by recycling water for use in the CPP, encouraging oxygen diffusion and reducing the likelihood of pathogen proliferation.

Water recycled through the Sewage Treatment Plant (STP) will be treated to achieve Class A effluent quality in accordance with the *Queensland Water Recycling Guidelines* (2005). Three levels of STP treatment will be undertaken in order to achieve Class A effluent quality including primary settlement, aeration, clarification, chlorine dosing (if required), filtration and ultraviolet (UV) disinfection (refer to Section 3.5.5 for STP effluent quality targets).

Treated effluent from the STP will be spray irrigated over a limited area within the MDL, located away from drainage lines or areas of human occupancy. Treated effluent which meets quality targets may also be used for dust suppression in a way that does not cause pooling of treated water.

Potable water will be collected in rain storage tanks and treated on-site via the potable water treatment facility. Management of potable water will be in accordance with, and assessed against, the *Australian Drinking Water Guidelines* (NRMMC 2011) to ensure safe, good quality drinking water for mine employees and visitors at the point of use.

In addition to the propagation of disease vectors via surface water ponding and water supply, pest animals can have considerable economic, environmental and social impacts on the community, through the introduction of disease, which can threaten human and native animal health. Feral animal control is undertaken in accordance with methods advocated by the Queensland Department of Agriculture, Fisheries and Forestry, the Department of Employment, Economic Development and



Innovation and Bio-security Qld, where appropriate, to alleviate the potential threat from this category of disease vectors.

4.11.2.5 Land Contamination

Contaminated land is land contaminated by hazardous substances which has the potential to affect human health or the environment.

Relevant to community values, a land contamination assessment was conducted over the Project site to determine the extent of historic contamination, by examining historical records including landownership titles, aerial photographs and undertaking land holder interviews.

Although a search of environmental management and contaminated land registers identified no known areas of contamination on the lots pertaining to MDL 467, the investigation uncovered the following potential sources of contamination associated with the Project site:

- Livestock dips - one buried, decommissioned livestock dip. As the dip is buried below ground at a reasonable depth (4 m) and is not proposed to be disturbed during mining, the risks of contaminants impacting the local environment and human health are considered to be limited;
- Chemical storage and handling – was observed at a number of homesteads on the Project site;
- Hydrocarbon storage - a number of the homesteads were observed retaining above-ground fuel storage tanks without bunds; and
- Asbestos fibres (un-bonded and exposed) – two properties had used asbestos fibre reinforced cement sheeting. Both buildings were abandoned and dilapidated; one house is located at St Helens and one at Taraborah Siding. Management of these properties is discussed further in the Historic Heritage Management Plan (provided in Appendix 22).

Following approval and prior to the undertaking of any notifiable activity on the Project site, the relevant lots will be advised to EHP for inclusion on the Environmental Management Register (EMR) in accordance with the EP Act.

During operations, potentially contaminated material will be managed via the on-site water management system where regulated dams will capture potentially contaminated surface water runoff. In addition, hydrocarbon spills from machinery will be remediated immediately and contaminated soil will be removed by a licensed contractor and delivered to a facility lawfully certified to accept regulated waste.

Upon cessation of mining, the Project site will be assessed by a suitably qualified professional in accordance with the *Guideline for Contaminated Land Professionals* (EHP 2012), who will prepare a site investigation report that will be submitted to EHP for assessment.

Following assessment, land will be remediated where required, reassessed by a suitably qualified professional and removed from the EMR at the discretion of EHP.

4.11.2.6 Transport Safety

Additional traffic will be generated on the Capricorn Highway during the construction and operational phases of the Project due to site deliveries such as fuel and explosives, in addition to the travel



undertaken by mine site employees.

Increased traffic flow along the Capricorn Highway has the ability to present traffic hazards to the community. It is anticipated that traffic increases associated with employees will be minimised through the establishment of a bus in, bus out (BIBO) transport system which will transport mine site employees from Emerald to the Project site, reducing fatigue and traffic impacts on the Capricorn Highway.

To reduce the risks associated with heavy vehicle movements, an upgrade will be commissioned along the Capricorn Highway, which will see the construction of turning lanes approaching the entrance of the site, allowing traffic from the highway to safely enter without impeding the flow of traffic. In addition, a T-junction will be constructed, allowing traffic to exit the Project site and safely merge with the flow of traffic on the highway. Road modifications will be facilitated by the DTMR and will be built to State road standards (refer to Section 3.5.1.1 for further details).

All dangerous goods, explosives and hazardous substances will be transported, stored and managed in accordance with relevant legislation.

4.11.2.7 Protecting Health, Safety and Community Values

The health, safety and community values of the region will be protected from potentially adverse impacts associated with the Project through practical measures, designed to not only protect the community but also enhance community values and health.

The following objectives have been developed to protect and enhance the health and safety of the community:

- Establish environmental stewardship as a core organisational value;
- Implement effective systems to identify, assess, control and monitor safety and health risks; and
- Establish achievable targets and performance indicators that show continued improvement or resolution of health and safety issues.

The interaction between the Project and the environment has the ability to leave a lasting impression on the surrounding community. The following nominated quantitative standards and indicators have been selected to enhance and protect the existing environmental values associated with the site, ensuring a positive legacy is left behind for the community:

- ANZECC (2000) *Livestock Drinking Water Guidelines* trigger values – quantitative standards for regulated dams and groundwater quality (background reference data may be applicable);
- ANZECC (2000) *Interim Sediment Quality Guidelines*– quantitative standards for receiving waters (background reference data may be applicable);
- NRMCC (2011) *Australian Drinking Water Guidelines* – quantitative standards for potable water supplies;
- Sewage Effluent Quality Targets (refer to Section 3.5.5) – quantitative standards for sewage effluent quality;



- Proposed External Noise Limits (refer to Appendix 17) – quantitative standards for noise and vibration;
- *Environmental Protection (Air) Policy 2008* quality objectives – quantitative standards for air quality;
- Waste tracking documentation – an indicator of appropriate regulated waste management; and
- Community complaints register – an indicator of community satisfaction.

Safety management plans and emergency response procedures will be developed in consultation with the state and regional emergency service providers and in compliance with the *Fire and Emergency Services Act 1990* where appropriate. The emergency response plans will detail mitigation strategies to achieve specific outcomes as outlined in the *State Planning Policy (SPP) 1/03 – Guideline for Mitigating the Adverse Impacts of Flood, Bushfire and Landslide*. An adequate level of training will be provided to staff that will be tasked with emergency management activities. Adequate separation of vegetation from exposures to prevent wildfire events threatening infrastructure in isolated areas will be maintained.

Standards and indicators will be achieved through effective planning and monitoring, and ensuring data is collated and interpreted in a meaningful way. An Internal Annual Monitoring Report shall be developed to assist in the interpretation of environmental monitoring data and report significant environmental trends internally. This report will help to clearly identify environmental issues to all levels of management, with the aim of improving overall environmental performance.

The objectives to protect and enhance the health and safety of the community and the workforce shall be implemented through a series of management plans such as pest management plans and programmes established to monitor the receiving environment as specified by EHP during and following the approval process.